Chapter V
THE MENTAL IMAGE

IN our last chapter we spoke of how we form percepts. How, when we look at an object or hear a tune, their various qualities make impressions on our nervous system, giving us sensations which, combining, result in an inward picture, or copy, of the object as it stands before us, or the tune as its notes flow by. Each sense tells us something about it. We not only become aware of its presence, but know what it means to us. Perception, therefore, is an elemental step in knowledge-getting or learning.

139. When we turn away from an object, or when it moves out of sight or hearing or touch-contact as the case may be, our perception of it ceases, and is only renewed if the object itself enters again our field of consciousness. So, if the mind were a kind of mirror and percepts merely reflections in it, then, as each object was withdrawn from sense-contact, the percept of it would be wiped out, leaving no trace, and though we might perceive it afresh, the new perception could not strengthen the old—there would be nothing to strengthen—and we should never know anything better. But we know that we do remember and recognize and learn more about individual things, and that every day adds to a child's store of knowledge. Now we have to learn a little more about this process, which we call remembering.

140. The sensations that we receive from things

in the outer world leave traces in the matter of the brain (76), and by means of these traces, in some wonderful way, the sensations can be revived when the object from which they came is no longer present. The revival, however, varies very much in distinctness.

141. As we walk along the street a thousand things make fleeting impressions on our senses, and sometimes after we have passed an object that has caught our attention for a moment we seem to carry a consciousness of it with us for a little way. Then the picture fades out and its place is filled with another, which fades out in its turn. None of the impressions has been strong enough or lasted long enough to leave very deep traces. But if our attention is caught for a longer time the sense-impressions are stronger, the traces will be deeper, and we shall have a much more vivid after-image, one that may be revived after it has (apparently) faded out.

142. If, in a picture gallery, your attention is caught by a canvas which particularly appeals to you, you will carry away a fairly accurate image of it; you will describe it, with many of its details, when you get home, though you may have looked at it for a few moments only. Or a cartoon in *Punch* makes an impression by its skill, its humour, or its pathos, and the impression remains with you and will remain; a much more definite image than would be left by an object of momentary attraction in the street, because you have given it your whole attention for an appreciable time, and the traces left are sharper.

143. *Repetition* of an impression strengthens it, so that images of very familiar things arise very vividly. Think of some thing or place with whose details you are very familiar. Perhaps a room that you have occupied on a recent holiday. You see it with your mind's eye, and all the objects that it contained. The mental image is not so distinct as when you stood within the room and had percepts of the objects in it; yet it seems to you as if you had the same sensations as when you looked round the room. And so you have, but now all the sensations are aroused from within, without any stimulation of the sense organs from without.

144. Even time does not always obliterate these mental photographs of ours, as we know. Think now of some place or person that you knew intimately as a child but have not seen since, or of some event that made a strong impression on you, pleasant or unpleasant, at that period. . . . The mental image rises, the impression revives, in response to my suggestion, in spite of the time that has elapsed; for the brain in childhood is plastic and easily receives and retains impressions. (I do not take it for granted that all my readers visualize equally well; I know that if I could question each separately I should find great differences in this respect.)

145. We shall return to all this when we speak more in detail about memory, which is, of course, a matter of retention and recall. At present our business is to inquire how the power of mental imagery can help us in teaching. Obvious as these experiments may appear to some of you,

they may be useful, for they can be directly applied to your work of pianoforte teaching.

The child's first lesson is about the keyboard. We direct his attention to the grouping of the black and white keys. Now, children love to try experiments; so, after he has looked at the keyboard and you have talked about it, ask him to shut his eyes and try if he can see it 'in his head' and describe it to you. Tell him that if he looks carefully at the keyboard he will be able to see its picture in his head whenever he likes. Try other experiments. Let him shut his eyes and think of his mother. He will seem to see her. Of his home, and so on. Why do I ask him to shut his eyes? Because the mental image will be more vivid if his attention is thrown completely inwards and away from the distraction of things around him. He cannot visualize his mother so clearly while he is looking at you. At his next lesson ask him to describe the keyboard before you open the piano. He will like to do this if you call it 'telling you about the picture in his head.' It is a little bit of introspective psychology within the power of a little child.

146. Then, too, you will show him the inside of the instrument. He will see what happens when the keys go down; the action of the hammers on the strings, and what the dampers do. Then he tells you about it without looking. His pictures now are moving pictures. His mind is like a little cinematograph. He sees things *happening*. At the next lesson you will test him. You will try whether with his mind's eye he can still see

these things happening, and can tell you about them. And when you find that his mental images are not clear, you will repeat the experiment—let him see it all happening again, noticing more accurately and filling up the gaps in the story.

147. The mental image left behind by any percept may be an imperfect one at first; but each time that we perceive the object afresh we compare, as it were, our idea with the fresh perception, add some detail to the picture, correct and fill out our mental image. These experiments give you an opportunity of observing differences between individual children as to their power of visualizing. But remember that what seems a lack of clearness in the child's mental image may be due to a difficulty in expressing himself in words; for the power of 'imagining' is strong in the average child, though many adults do not visualize vividly, and some will tell you that they cannot do it at all.

148. At a very early stage in the child's pianoforte lessons you will notice a difference in the ease or difficulty with which the little pupils do what I call the *Locality* exercises.* A child whose *understanding* about the connection between the staff and the keyboard is quite clear will sometimes be what his teacher calls 'unaccountably' slow in both forms of the exercise. He never seems quite sure of himself, and will from week to week make little progress in speed of response; while another child will go ahead until he can name and play a whole line of notes in a minute

*A reference to the lessons in my Pianoforte Method.

—or even with greater ease just *look* and play. The teacher wonders whether the slow child sees properly, but she tests his sight in other ways and finds it good. What is the matter? If we are to cure a fault we must account for it.

149. It probably is that he has not a sufficiently vivid mental image of either the keyboard or the staff diagram to refer mentally to the one of them when looking at the other; the percept of the one blots out the image of the other. When you, pianists, are playing 'from the book,' you have at the back of your minds a picture of the keyboard, and on this mental keyboard you find your way about while your eyes are engaged with the score; and when you play by heart, looking at the keyboard, you have a similar semi-consciousness of the written page. You seem to be playing from that.*

150. In the case of the hesitating child try this: When he has named a line or space let him, *before* looking down at the keyboard, visualize it—i.e. *imagine* that he sees it—and think where the sound he has named is to be localized. When he is sure of this on his mental keyboard he will probably go straight to the spot. Conversely, in the dictation exercise let him visualize the staff before looking at his slate (or the diagram) and deciding upon the exact line or space which belongs to the sound played before he looks up and proceeds to write it. It is because the other child instinctively does this that his work is rapid. With the slower

* Individual experiences will differ. Some people trust chiefly to muscle memory, and have but a faint image, if any, of the score.

child we must make the process a conscious one until a marked increase in speed shows that it is becoming sub-conscious. Try this plan, and try it early. Do not let the habit of slowness grow. A child begins to dislike doing what he does not do better and better.*

151. Let us see how all this applies to the storing and recalling of musical ideas. Will one hearing of a piece of music leave as vivid an image with you as the picture that held your attention for a short time in the picture gallery? Ask a friend to play to you a portion of a very simple piece—about sixteen measures—and see if it leaves as complete an image in your mind as the *Punch* cartoon did. You will find that you have only captured a few notes of the tune, while the details of the picture or the cartoon were at once tolerably complete. Why is that?

152. Because all the sense-impressions from the picture reached you together and were at once combined into a complete percept. You saw the picture as a whole. In the other case the sense-impressions came in succession. Some had passed away before the others came and you were not able to keep the earlier ones until the later ones arrived. The whole thing passed by and was gone, and you never had a complete percept of the tune at a given moment. You never, as it were, *saw* the whole tune together.

153. We must remember this great difference between visual and aural perception, and the consequent difference between visualizing and

* From the 'Teacher's Guide,' page 62.

auralizing after a single experience. The eye takes in large groups of things at a glance, and it can even rapidly retrace its path over the picture and renew its impressions. But it is not so with hearing. When a person speaks to you his words reach you in succession. Word after word falls on the ear, is 'damped,' and disappears (50); but the after image of each links on to the next word, and so words grow into sentences with a meaning, and we grasp the speaker's complete thought. So, in listening to music, its melody and its rhythm reach you gradually. Sound after sound falls on the ear, is 'damped,' and disappears; but the after image of each links on to the next; single sounds grow into figures and phrases with a meaning, and we can grasp complete musical thoughts.

154. In listening to harmony, many different pitch-sensations reach us together and are combined into one clang or chord, each of which may be called a musical idea. When we consider how in rhythmic and melodic progression group succeeds group, and how in each group the two different kinds of sensations are combined (sensations of pitch and time), and how, again, these group-ideas are intermingled with clang-ideas, we begin to realize that listening to music is a very complex process. Is it any wonder that one hearing of the simplest tune leaves behind it but the merest ghost of a mental image?

155. The amount that can be retained after one hearing of a piece of music, or even of a single phrase, varies with individuals. We have on

record extraordinary instances of the reproduction of entire compositions after one or two hearings. But these are rare.

156. We noticed that one of the conditions on which the vividness of an image depended was the familiarity of the object. If I ask you to *think* 'God save the King' you have no difficulty in doing so . . . and, if we get the cue, old tunes that we sang as little children ('There is a happy Land,' for example) come back to us as vividly as the National Anthem. If you were to hear any little tune repeated a great many times you would probably be able to 'ideate' it so completely that you could play it from memory next day. At each repetition you would compare your imperfect idea with the fresh percept, fill up the blanks, and gradually make your 'image' complete.

157. 'Image' may seem to you a curious term to apply to the memory of sounds. But there is no other technical term for *that which is left behind by any percept, through whichever sense the impressions may have come.* You often speak of 'imagining' sounds, and this just means having mental images of them. When you think a tune, i.e. when you hear it mentally, you have an auditory image.

158. I have found that many students run away with the idea that the image of a tune includes its notation. It is not so. Ask a little child who knows nothing of musical notation to sing to you 'Little Bo-peep' or any other ditty that she knows. She does it. She could not do it if she had not a mental image of the tune. The

image of the notation, of which *you* are conscious, is an associated image. The child's is purely a sound-image, an image of the thing itself.

159. I want you to notice one or two things about such listening tests as I have suggested. First, that if you fail to 'ideate' the tune at one hearing, no amount of thinking back and trying to remember is of any use. Music passes by and is gone. If you have not seized it as it passed by it must pass by again. It must be caught on the wing. It is important to remember this when giving ear-exercises, whether in time or tune. I have heard a teacher say to a pupil who had failed to grasp an ear-test, 'Think!' but thinking doesn't help. The teacher should say 'Listen!' and repeat the test. Secondly, though you may find in your experiments that you cannot retain sixteen measures, you would probably succeed with two, or even four. A short phrase can be reproduced because its first sounds can be retained long enough to be associated with the last.

160. The early ear exercises, then, should be *short*. At the introduction of a new pulse-division (♪♫♪ for example) it is better to embody it in a three-pulse measure than in a four-pulse, or even in a two-pulse measure for some children; always, however, finishing with a resting-note of full-measure value (♫ ♫♪♪ ♫ | 𝅗𝅥.).

161. Musical ear-exercises require a mental alertness not required by any other kind of observation lesson. All observation lessons are good, and they are largely used in school work. The art teacher gives a lesson in memory drawing,

exposing an object or an outline for a short time and then covering it up. The picture produced by the pupil is a copy, not of the thing, but of the mental image which remains; for we can only reproduce as much of the percept as we have been able to gather up into a mental image. So improvement in the drawing denotes improvement in the pupil's scope of attention. Sometimes a number of things are placed on a table and the pupils tested as to how many of these they can remember as they pass by—the numbers being gradually increased.

162. Now, in all such exercises the teacher can, at her discretion, give more or less observation-time. But in music she has no option. An ear-exercise, by its nature, forbids any latitude or indulgence. We cannot place sounds on a table and examine them at our leisure. They mock us by their transiency; we have to be very alert if we would capture them. A teacher can only make an ear-exercise easy (*a*) by making it short, or (*b*) by making its constituents very simple, or (*c*) by directing the attention to one constituent of a group. For instance, after a lesson on a new pulse —perhaps (*tafe-téfé*)—the teacher will say: 'I am going to play a four-pulse measure. Listen, and tell me on which pulse you hear *tafa-téfé*.' The attention being on the alert for that constituent of the test, it easily jumps to the focus, and the remaining pulses are as if they had not existed; they simply disappear. But when the teacher is satisfied that the new pulse is known, because it is recognized at any point in any

measure, she says: 'Now give me back a whole measure.' The attention is now diffused over all the constituent pulses; the rhythm holds them together, and the measure is seized as a whole, like a spoken sentence.

163. Notice, too, that the material we are called upon to observe is different from all other material. In other observation lessons we exercise the mind's judgment on visible and tangible objects; and even if we were to set ourselves to train the senses of smell and taste, the material would be visible and tangible, so that the senses would help each other. In ear-observation we deal with *sounds* and their relations to each other in pitch and duration. No other sense can help us here. The ear must act alone, and must act rapidly.

164. A little child is sometimes called stupid for failing to carry out directions which have been given too rapidly, so that the corresponding series of images has not time to appear in the child's mind. A child of three is quite able to do a simple errand if it is dictated properly. But perhaps the mother says, 'Baby, run upstairs to my room and fetch my key-basket from the little table beside my bed.' Here are five objects—stairs, room, basket, table, bed—mentioned in such quick succession that the little one has no definite image of any of them, though all are familiar. But if the message is broken up into separate presentations the errand will probably be done quite well. For example:

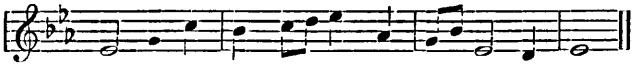
165. 'Baby knows Mammy's room upstairs?' 'Yes.' 'And Mammy's bed?' 'Yes.' 'And the

little table beside it?' 'Yes.' 'And Baby knows Mammy's key-basket?' 'Yes.' 'Well, now, Baby will go upstairs . . . into Mammy's room . . . and beside the bed . . . on the little table . . . she will see Mammy's key-basket . . . and bring it down.'

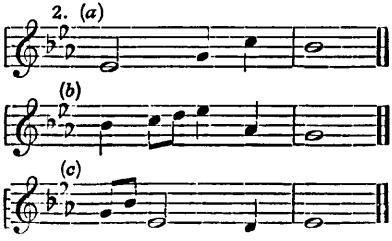
166. Now, in this way the familiar images are called up one by one into consciousness. Each has its meaning 'for behaviour,' and the little one toddles off, probably repeating the message out loud as she climbs the stairs.

167. We can treat ear-exercises in the same way. A pupil who cannot take in a phrase of four measures will succeed if it is broken up into small sections. It requires a good ear and a considerable amount of practice for a pupil to take in at one hearing the example below (1), but if we begin by breaking up the exercises the result is encouraging:

1. F. G. SHINN

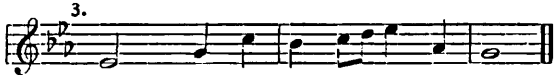


(2) The same, broken up, with a resting note introduced after the first and second measures:

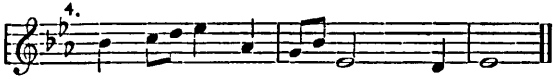


Let each little section be dictated separately,

written, and sung if it is within vocal compass. (3) Rub all off the board. Then dictate sections (*a*) and (*b*) in combination, thus:



And then (this being rubbed out) sections (*b*) and (*c*), thus:



Play the complete phrase once through. It ought to be easily written from memory if in the early stages the training has been good and well graded.

168. Visualizing and auralizing strengthen each other. That is why sight-singing and ear-training should be taught together.

169. When you have memorized a piece, and afterwards habitually play it by heart, small inaccuracies sometimes creep in, which you discover to your surprise if some day you play it with the score before you. Knowing this about yourselves, when inaccuracies begin to appear in a pupil's memory-playing we may guess what is happening. The mental image of the score has become blurred. Now, memory-playing is very important, and we can guard against inaccuracy by making a simple rule about practising: Never start practising a piece from memory without reading it through first. I mean reading without

playing,* though any doubtful passage may be played. Even children may be trained to do this. The object is to get a fresh percept of the score; to fill up the gaps in our mental image of it.

170. In teaching our pupils to memorize music we have to keep in mind an interesting fact—namely, that individuals differ in the ease with which they form and retain images of different classes. Some people seem to have a kind of mental preference for eye-images, some for ear-images, some for touch-images. This is what is called the Preferred Sense. Some people tell you that they can recall tastes and odours, and this is possible; for every sense-impression leaves a trace—each sense has a memory. Most of us can at least *recognize* tastes and odours, but to conjure them up in imagination—to think them—is a different thing, and such

* Reading music without playing it is an economy of physical strength which is often important for growing girls, and also tends towards strengthening their symbolic perception. The preparation of a new piece without playing it is strongly advocated by Mr. Ernest Fowles, who accustoms his more advanced pupils to prepare in this way, playing the piece for the first time at his lesson. It is excellent eye-training, and also necessitates a mental association of staff and keyboard and fingering. It does not necessitate any mental hearing, except of the patter of the rhythm. A piece may not only be prepared for sight-playing, but actually memorized, apart from the piano (as pupils of the Virgil School proved), without that mental realization of melody and harmony which is included in the full perception of a pianoforte score; and if pupils are not tested in these particulars we may give them credit for more musicianship than they possess. That is to say, it may be *merely* visualizing, with no musical perception behind it. But this does not take away from the value of the exercise as a preparation for and training in sight-playing. By many teachers nowadays little beginners are trained to this kind of mental preparation before starting their tunes and sight-playing exercises. (See 'Teacher's Guide,' page 88, on the treatment of a Reading Exercise.)

memory-images must be faint. They do not, at any rate, concern us here. Our direct interest is in the other three classes of persons, whom we call Visuals, Audiles, and Tactiles. With many people, along with the visual or aural image there is a distinct revival of the muscular sensations and movements connected with it. When they think of swimming or climbing they have a feeling of exertion, and when telling you of such feats they will show a tendency to make the appropriate movements. When they think of a tune they will beat time with hand or foot, or move the fingers as if playing it. These are Motor-visuals or Motor-audiles.

171. In some people this motor memory is so strong that they are classed apart, as Motiles. I can instance a friend of my own who was quite tone-deaf, but was very sensitive to rhythm, and danced beautifully. She recognized music entirely by its rhythm, and it was a favourite joke to play to her the melodies of 'Garryowen' and 'Bonnie Dundee,' which are identical in rhythm, and ask which had been played. She never could tell, the 'up-and-down' sense being altogether wanting. She was evidently a Motile.

172. Such idiosyncrasies do not seem to be due to the native acuteness of one sense or another. A person may have perfect sight and be unable to visualize, and deafness is no bar to the inward realization of music if the person has not always been deaf. Perhaps habits started by early teaching may have something to do with it. A person whose first study of languages was from books will

often have difficulty in picking up a language by ear, although his ear and power of imitating may be excellent. He may, indeed, be essentially an audile, but trained as a visual; so that, from habit, he needs the picture of the written word to fix it in his memory. So also we find people who have given years to the study of music but are weak in aural perception; not because they cannot hear, but because the inner sense has not been cultivated. Good sight-players, good performers, showing musical feeling as well as brains, they cannot recognize and name the chords in a simple progression played to them, though they have 'done' advanced harmony. Nor can they—as many a youth can who has no technical knowledge of music—pick up by ear a song that they have heard a few times and play it on the piano, making a very good shot at the harmony. They may have started life as audiles, but they were trained as visuals, and have lost the habit of listening.

173. It is often difficult to judge whether one is one's self a visual or an audile, because there is no absolutely pure memory type. Most of us can visualize and auralize, and have tactual and motor images. We belong to a mixed type. But there is always a *tendency* to one way or another: that is all that is meant. And we can test ourselves to some extent. When you are in a concert-room, do you like to shut your eyes and listen to the music or do you like to watch the player or the singer? When you come away, what is your most vivid impression: the personality, the mannerisms, and the dress of a singer, or the music she has

sung? When you read a play *which you have not seen acted* do you imagine scenery and see the performers moving about it—or do you seem to hear the words of the play uttered with proper emphasis by voices, male and female, young and old? When you have been to the opera, do you carry away with you more of the music or of the scenery and action? When trying to recall mentally a piece of music which you have partly forgotten, do you find yourself trying to remember the score or the keyboard, or do you simply *hear it*, apart from either? Does a sense of the fingering come in? Are you trying in imagination to *play it?* In ordinary matters do you learn more easily by being told things or by reading them in a book? When repeating poetry by heart aloud or mentally, do you hear the words or see them in their place on the page? All these are approximate indications of our 'preferred sense.' It is interesting to compare notes, if only for the sake of realizing how different we are from one another and being prepared to find our pupils different from ourselves.

174. You will find visuals, audiles, and tactiles among your music pupils, and their tendencies will affect their work. The pianoforte pupil has to cultivate eye-memory, ear-memory, and touch-memory pretty equally, and you may have to level up as you go along. To level up, we must notice which is the pupil's preferred sense, and while we use it as the quickest way to achieve an immediate result, we must see that he does not trust exclusively to it, and so miss the help

he may get through other senses in this particular kind of work.

175. In relation to instrumental music, the eye-memory works in two directions; there is the mental image of the score and that of the place or *shape* of each passage on the keyboard.

176. The ear-memory also works in two directions. It detects wrong notes when played—correcting after the mischief is done—but it also reminds us of what is coming, and in this way it is very valuable. Under certain conditions the ear-memory, usually the least reliable, might be the best of all. When harmony is taught from the beginning in a *direct* fashion—i.e. at and through the keyboard—so that ordinary pianists can readily transfer to the keyboard what they mentally hear, then the ear will be an invaluable reminder to the many, as it is now to the few, who have skill in thus applying their harmonic knowledge.

177. The muscle or 'motor' memory is useful in establishing fingering; it is automatic. It often carries us over a dangerous place when visual and aural images fail us. But in memorizing whole compositions it is a broken reed on which to lean.

178. The analytical memory is a corrective to the mechanical muscle-memory. It keeps before the player the composer's sequence of ideas and their development, and so takes intelligent command of the mere sense-memories. But that belongs to a further stage in our study. Memory means more than the revival of images; but all that it means may be considered later on.

179. Among amateurs you will generally find

that the fluent reader is a poor memorizer, and will probably tell you that he cannot memorize; while the person who by preference plays from memory is not usually a fluent reader. We may almost say that (among amateurs, at any rate) sight-playing and memory-playing are in inverse ratio. I think this can be accounted for.

180. The eye of the fluent reader passes over the score rapidly. His attention to it is fleeting, hardly conscious; it is a case of automatic behaviour in response to the notation (113), and leaves hardly any trace in the mind.

181. The fluent reader seldom looks at the keyboard. His hands find their way about without the help of his eye, and he has no vivid picture in his mind of the *placing* of his passages on the keyboard.

182. The fluent reader's technique is equal to all ordinary demands upon it (if it were not he could not be a fluent reader), so that he only *practises* difficult passages, and the connecting tissue of the piece is not committed to his muscle-memory. His tactual images are fragmentary.

183. Now, the poor reader is the reverse of all this. He deciphers slowly, and almost invariably looks at his hands while doing it. His eye travels up and down, up and down, between score and keyboard, and he gets a blurred image of each. Reading being irksome, he prefers to memorize as he goes along, learning in short sections, and giving more and more attention to the placing of each section on the keyboard. It is to muscle-memory and keyboard-memory that he eventually

trusts; and in an extreme case of this kind it has been found that when a piece has been laid aside for a while and the muscle-memory has failed, the pupil has had great difficulty in playing it from the score. It was like learning it over again. When you mark this tendency to trust altogether to keyboard memory it is well to insist on the precaution I have suggested above—namely, that the piece shall be read, with or without playing it, between the memory practisings.

184. For the public performer memory-playing is all-important, and I have heard, though I cannot vouch for it, that some trainers of young artists are not particularly anxious that their pupils should be fluent readers. But for the average person, the amateur who has some talent, sight-playing is one of the things which will make her most useful in her day and generation. Nor is it necessary that memory-playing should suffer. By all means let her memorize, for we never enjoy to the full what we do not play by heart; but do not let a preferred sense lord it too much over the other senses. Level up.

185. With good powers of visualizing, auralizing, and tactualizing you can practise very effectually when lying awake in the dark. You see the score (you also discover the gaps in your image of it), you hear your ideal interpretation of it, you perhaps feel your limbs actually playing it. It is a mistake to suppose that practising can only be done at the piano. As a matter of fact, a great deal of time is wasted there; and wasted too by the conscientious pupil who thinks she

fails in her duty if she stops playing for one moment! So she plays her piece over and over, with a vague hope that it will come right somehow. If she would stop and *think* the piece, or sections of it, between the repetitions—think it, i.e. imagine it, as she would like to hear it played—she would probably, at each repetition, bring it nearer to her ideal. Leschetitzki told his pupils, 'For one playing, think ten times.'

186. To call up a mental image we need a reminder or cue. This may be an identical experience, such as meeting the same person again; or a similar one, when we say 'that reminds me' of so-and-so. Or one idea may call up another, so that sometimes we find ourselves face to face with an unexpected mental picture, and say 'I wonder what made me think of that.'

187. But our principal reminders are words. On these we depend for the larger part of our mental activity from moment to moment, and we rely mainly upon them for holding communication with the minds of others. It is curious that by a word—which is, as Professor Adams says, 'only a peculiar kind of noise'—we should be able to cause a mental image or idea to come into another person's consciousness. But so it is.

188. You see then, that by giving names to objects in the outer world we establish cues by which their images can be called up in our own minds, or similar ones in the minds of other people.

189. The importance of naming is hardly realized by teachers. The great difficulty they

have had to contend with in the teaching of time and its notation has been a lack of a name for the thing *heard*. The names used in the ordinary teaching of time are only the names of the symbols: *crotchet*, *minim* or *whole note*, *quarter note*, etc.; and there has been no way of teaching it except through the symbols, which is the wrong order. Aimé Paris recognized the need of naming time-*sounds* as distinct from time-*signs*, and invented those syllables which he called the *Langue des Durées*, and which we who use them in England call the *Time-names*. These meet the difficulty completely. When the pupil has observed a new fact, a fresh pulse-group, he gets a name for it, a something with which he can record his observation, which is not the name of the symbol, and which he can use *before he sees the symbol*. Thus we are enabled to follow the true psychological order in teaching—namely, first the thing itself with its name, and then the symbol. Teachers are finding out the value of the time-names, and many who began by scoffing at them now say, 'How did I ever teach without them?'

190. In the teaching of pitch-relations naming is of primary importance. For the teacher of sight-singing and ear-training—two aspects of one subject—the difficulty is not a lack, but a choice. If she tries to teach by interval and absolute pitch she will, of course, use the absolute pitch (keyboard) names, A, B, C, D, E, F, G. I should not anticipate much result from that plan, however. If she decided to work by relative pitch, as most people do nowadays, she must choose between the

figure scale-names, 1, 2, 3, 4, 5, 6, 7, or the syllabic scale-names, *doh*, *ray*, *me*, *fah*, *soh*, *lah*, *te*. The question for her will be, which set of names is likely to be most efficacious in fetching up into the mind the images of the scale-sounds? A sound must be imagined before it can be sung. Which word will the more probably help the learner to imagine the sound of the fourth of the scale—the word *four* or the word *fah?* Of the key-tone, the word *one* or the word *doh?* There is no lack of statistics on this point. Inquire, experiment, and judge for yourselves.

191. To attempt to teach without names is futile. Names of some kind you must use. Without names you cannot teach—anything. Names individualize, classify, help us to record what we observe. Music is just like any other subject in this respect. Its every little detail is a fact that reaches us from the outer world, and until we have named it it can have no permanent place in our inner world.

192. In teaching, we may have to use temporary names, to be exchanged later for the more technical ones used by musicians. But a change of label is no difficulty when the thing signified is thoroughly known. A child says 'breakfast' when she is in England. When she crosses the Channel she learns in a day or two to call it 'déjeuner,' but the change of label does not affect her behaviour towards it, which is all that matters. The pianist's behaviour in response to a sign of this shape (♯) is the same whether she calls it a 'sharp' in London or a 'dièse' in Paris. Think

of these things, and choose the helpful name. If, as in the case of the time-names, it seems to you childish or elementary, never mind. Your task is to get knowledge, by hook or by crook, into the learner's mind. To choose the hook that will best hold it there is simple common sense.

193. Grown-up people do their thinking and reasoning by means of words, which may or may not (as we shall see further on) call up mental images; but children do their thinking by means of objects and images for a very long time, and if we would guide the pupil's thought and give him clear notions we must be able to call up in his mind such images as may help him to understand. We cannot teach without using illustrations and analogies very freely, and for this we are dependent on the child's existing ideas. We must take stock of these, else we may find ourselves talking over his head and using terms which have no meaning for him, or else words which he may entirely misunderstand. *We* must think in *his* terms.

194. In the beginning of our teaching we are dependent for illustration on the musical images or ideas that the children already possess, and for any analogies we may desire to use we must find related ideas in their experience outside music. The child who has a good store of tune-images within call has the material for illustration ready to hand; hence the importance of rote-singing in the nursery and kindergarten. For the mind knows things first as *wholes*, and then analyses the wholes into parts. The pupil who can *think*

'God save the King' has a mental image from which we can illustrate—

(*a*) Three-pulse measure.

(*b*) The continued half-pulse (♩. ♪ *taa-a-té*).

(*c*) The effect of low *te*.

(*d*) The effect of *soh*.

(*e*) The effect of *fah*.

(*f*) The increase of tone on repeated notes.

195. So we can utilize the same tune in different departments and at different stages of the child's work, and it is easier to teach a child who has a good stock of tunes stored up in his memory, because our illustrations are references to familiar things. It is also easier for the child to learn. He can pick the familiar tune to pieces, and hold a section of it before his mind long enough for it to be a real illustration of what you are teaching him. He can compare and form a judgment. With a new musical example this is more difficult.

196. Before we go further let us note the differences between the mental image and the percept, and be clear about that.

(*a*) When the object is before you, you have a percept of it; you perceive it.

(*b*) When the object is no longer there you have no percept, but you have a mental image of it.

(*c*) The percept comes to you from without, though it is reinforced from within.

(*d*) The image comes to you entirely from within.

(*e*) Perception stops when the object is removed, but—

(*f*) We carry our images about with us.

(*g*) The percept may be called a copy of the present object.

(*h*) The image is a copy of the percept.

(*i*) The image is less vivid than the percept, less accurate, and tends to become less and less accurate. We might expect this from the copy of a copy.

(*j*) The percept cannot alter, unless the object itself alters.

(*k*) The image *becomes general* in course of time, and what that means we shall see by and by.